**NAGT Workshop - Cutting Edge Online Labs - July 2020 Workshop**

**Inquiry Labs Information Sheet. (Revised July 2021)**

**1. Name of Lab:** Fantastic Prehistoric Beasts and Where/When to Find Them

**2. Authors:** Dave Goldsmith, Kaydee West, Rowan Martindale, Marie Farson, Michelle Harris, Sharon Gilberg

**3. Description:**

This inquiry-based lab explores the fossil record by having students use various characteristics of fossils to devise a classification scheme and eventually apply the geologic time scale and geographic locations of the fossils. In Part 1, students are given household or classroom-based items to sort into groups for developing their own classification scheme. Part 2 repeats a similar path to a classification scheme of known fossils. In Part 3, the students take their knowledge of classifications schemes to infer the geologic time period and geographic extent of some fantastic prehistoric beasts of the fossil record.

**4. Delivery Format** (e.g. In-Person, Online Synchronous, Online Asynchronous):

* Online, using break out rooms (synchronous) or discussion boards (asynchronous)
* In Person, using materials provided in class and a whiteboard or posterboard

**5. Audience:**

* Introductory Level course such as Life Through Time/Earth History

**6. Learning Objectives:**

* Students will sort and group a given set of objects to formulate a classification scheme.
* Students will discuss and synthesize how problems and priorities can affect classification schemes.
* Students will sort and group fossils to formulate a classification scheme.
* Students will discuss and synthesize how problems and priorities can affect the grouping of fossils (i.e., age, biology, paleoenvironment).

**7. Intended levels of Inquiry included (per Buck et al., 2008):**

* Guided Inquiry in parts 1-2; Structured Inquiry in part 3

**8. Expected Prior Knowledge (e.g. previous lab activities):**

* + Students have had information on symmetry and fossil preservation
  + Students should have a brief introduction to the Geologic Time Scale
  + Students should have a brief introduction to taxonomic levels

**9. Expected Time for Lab (or for modifications):**

* Approximately 2-3 hours

**10. Materials Required (for an online class):**

* + Students must have access to the internet.
  + Students must have access to a discussion board
  + For an in-person class: students must have access to the PBDB on computers (a school computer lab or their own laptops) and/or handouts and manipulatives provided in class

**11. Materials Provided:**

**a. Student Handouts:**

* Lab Instruction Handout- Fantastic Prehistoric Beasts and Where/When to Find Them, available as a .docx and .pdf
* Discussion Board Rubric
* Graph for Biodiversity- Biodiversity Graph: Fantastic Prehistoric Beasts and Where/When to Find Them
* Digital Fossil Handout (made from PBDB or fossil kits if available)

**b. Instructor Materials:**

* Instructor Guide
* Student Handout Answer Key- Answer Key: Fantastic Prehistoric Beasts and Where/When to Find Them
* Graph for Biodiversity Answer Key